Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (Currently Amended): A perpendicular magnetic recording medium, comprising:

(a) a non-magnetic substrate having a surface; and

(b) a layer stack formed over said substrate surface, said layer stack comprising, in overlying sequence from said substrate surface:

(i) a magnetically soft underlayer;

(ii) a non-magnetic interlayer structure; and

(iii) a magnetically hard perpendicular main recording layer;

wherein said non-magnetic interlayer structure is selected from the group consisting of:

(1) a structure comprising a layer of a *fcc* Au-containing non-magnetic material having a < 111> preferred growth orientation and a layer ~~of a different material~~ comprising Ru in overlying or underlying contact with said layer of *fcc* Au-containing non-magnetic material;

(2) a structure comprising, in overlying sequence, a layer of a *fcc* Au-containing non-magnetic material adjacent said magnetically soft underlayer and having a < 111> preferred growth orientation; and *n* layers of a different *fcc* non-magnetic material having a < 111> preferred growth orientation, where *n* = 1 - 5;

~~(3) a structure comprising, in overlying sequence, a layer of a *fcc* Au-containing non-magnetic material adjacent said magnetically soft underlayer and having a < 111> preferred growth orientation; and a layer of a *hcp* non-magnetic material having a < 0002 > preferred growth orientation;~~

~~(4)~~ 3 a structure comprising, in overlying sequence, a layer of a *fcc* Au-containing non-magnetic material adjacent said magnetically soft underlayer and having a < 111> preferred growth orientation; *n* layers of a different *fcc* non-magnetic material having a < 111> preferred growth orientation, where $n = 1 - 5$; and *n* layers of a *hcp* non-magnetic material having a < 0002 > preferred growth orientation, where $n = 1 - 5$; and

~~(5)~~ 4 an $(fcc)_1/(hcp)_1/(fcc)_2/(hcp)_2$ structure comprising, in overlying sequence, a first *fcc* layer $(fcc)_1$, a first *hcp* layer $(hcp)_1$, a second *fcc* layer $(fcc)_2$, and a second *hcp* layer $(hcp)_2$, wherein at least the first *fcc* layer is an Au-containing non-magnetic material.

2 (Original): The medium as in claim 1, wherein:

said non-magnetic interlayer structure is about 0.2 to about 50 nm thick.

3 (Original): The medium as in claim 2, wherein:

said non-magnetic interlayer structure is about 0.25 to about 25 nm thick.

4 (Original): The medium as in claim 1, wherein:

said layer of a *fcc* Au-containing material having a < 111 > preferred growth orientation is about 0.2 to about 20 nm thick and comprises Au with at least one element added thereto, selected from the group consisting of Al, Ag, Cr, Cu, Ga, Hf, In, Ir, Mn, Nb, Pd, Pt, Sc, Sn, Ta, Ti, V, Zn, Zr, Mo, and W.

5 (Original): The medium as in claim 4, wherein:

said layer of a *fcc* Au-containing material having a < 111 > preferred growth orientation is about 0.5 to about 10 nm thick.

6 (Withdrawn): The medium as in claim 1, wherein:

said *n* layers of a different *fcc* non-magnetic material having a < 111> preferred growth orientation have a total thickness from about 0.2 to about 20 nm and are each comprised of an element selected from the group consisting of Rh, Ir, Pd, Pt, Cu, Ag, Al, Au, and their alloys.

7 (Withdrawn): The medium as in claim 6, wherein:

said *n* layers of a different *fcc* non-magnetic material having a < 111> preferred growth orientation have a total thickness from about 0.5 to about 10 nm.

8 (Withdrawn): The medium as in claim 6, wherein:

said *n* layers of a different *fcc* non-magnetic material having a < 111> preferred growth orientation contain minor amounts of *bcc*-structured elements selected from the group consisting of W, Mo, Ta, Nb, Cr, and V.

9 (Withdrawn): The medium as in claim 1, wherein:

said *n* layers of a *hcp* non-magnetic material having a < 0002 > preferred growth orientation have a total thickness from about 0.2 to about 40 nm, are each comprised of an element selected from the group consisting of Ru, Re, Hf, Ti, and Zr, and contain minor amounts of at least one *bcc*-structured element selected from the group consisting of W, Mo, Ta, Nb, Cr, and V.

10 (Withdrawn): The medium as in claim 9, wherein:

said *n* layers of a *hcp* non-magnetic material having a < 0002 > preferred growth orientation have a total thickness from about 0.5 to about 20 nm.

11 (Original): The medium as in claim 1, wherein:

said magnetically soft underlayer is about 10 to about 1,000 nm thick and comprised of Fe containing at least one element selected from the group consisting of Co, B, P, Si, C, N, Zr, Nb, Hf, Ta, Al, Cu, Ag, and Au.

12 (Original): The medium as in claim 11, wherein:

said magnetically soft underlayer is about 40 to about 200 nm thick.

13 (Original): The medium as in claim 1, wherein:

said magnetically hard perpendicular recording layer is about 2 to about 30 nm thick and includes at least one layer of a ferromagnetic material selected from the group consisting of: (1) Co alloys containing at least one element selected from the group consisting of Pt, Cr, Ta, B, Cu, W, Mo, and Nb, with or without at least one oxide selected from the group consisting of oxides of Si, Ti, Zr, Al, Cr, Co, Nb, Mg, and Zn; (2) iron nitrides; and (3) $(CoX/Pd \text{ or } Pt)_n$ multilayer superlattice structures, where *n* is an integer from about 10 to about 25, each of the alternating, thin layers of Co-based magnetic alloy is from about 0.2 to about 0.6 nm thick, X is an element selected from the group consisting of Cr, Ta, B, Mo, Pt, W, and Fe, and each of the alternating thin, non-magnetic layers of Pd or Pt is about 0.6 to about 1.2 nm thick.

14 (Original): The medium as in claim 13, wherein:

said magnetically hard perpendicular recording layer is about 4 to about 15 nm thick.

15 (Original): The medium as in claim 1, further comprising:

(iv) an amorphous layer up to about 10 nm thick located between said magnetically soft underlayer (i) and said non-magnetic interlayer structure (ii) when said magnetically soft underlayer (i) is not amorphous, and comprised of a material selected from TiCr, TaCr, NiTa,

NiNb, NiP, CrZr, and CoW, with or without at least one oxide selected from the group consisting of oxides of Si, Ti, Zr, Al, Cr, Co, Nb, Mg, and Zn.

16 (Original): The medium as in claim 15, wherein:

said amorphous layer is about 0.2 to about 2 nm thick.

17 (Original): The medium as in claim 1, wherein:

said non-magnetic substrate (a) comprises a material selected from the group consisting of Al, NiP-plated Al, Al-Mg alloys, other Al-based alloys, other non-magnetic metals, other non-magnetic alloys, glass, ceramics, polymers, glass-ceramics, and composites and/or laminates thereof.

18 (Original): The medium as in claim 17, wherein:

said non-magnetic substrate includes an adhesion layer on said surface.

19 (Original): The medium as in claim 18, wherein:

said adhesion layer is comprised of a material selected from the group consisting of Cr, CrTi, Ti, and TiNb.

20 (Original): The medium as in claim 1, further comprising:

(c) a protective overcoat layer on said main recording layer; and

(d) a lubricant topcoat layer on said protective overcoat layer.